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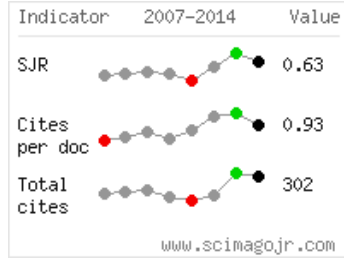
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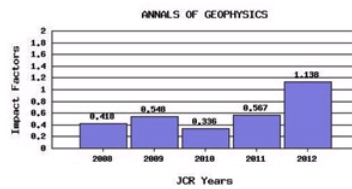
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Buried volcanic structures in the Gulf of Naples (Southern Tyrrhenian Sea, Italy) resulting from high resolution magnetic survey and seismic profiling

G. Aiello, A. Angelino, B. D'Argenio, E. Marsella, N. Pelosi, S. Ruggieri, A. Siniscalchi

Abstract

In this paper we present a correlation between volcanic structures and magnetic anomalies in the Gulf of Naples (Southern Tyrrhenian Sea) based on high resolution magnetic profiling. A densely spaced grid of magnetic profiles coupled with multichannel seismics (seismic source Watergun 15 cubic inch) was recorded in the Gulf of Naples, representing an active volcanic area during the Late Quaternary (volcanic centers of Somma-Vesuvius, Phlegraean Fields and Ischia and Procida islands). The dataset was collected during the oceanographic cruise GMS00-05 which took place during October-November 2000 in the South Tyrrhenian Sea onboard of the R/V Urania (National Research Council, Italy). Shallow volcanic structures in the subsurface of the gulf were recognized by seismo-stratigraphic analysis of high resolution profiles; the volcanic nature of some of these structures was inferred identifying the magnetic anomalies on a high resolution magnetic anomaly map of the gulf. Even if qualitative, the correlations between seismic and magnetic profiles allow us to better assess the geological structure of the Gulf of Naples.

Keywords

Gulf of Naples; Southern Tyrrhenian Sea; magnetic anomalies; high-resolution reflection seismics; volcanic structures

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